



# Ohio Pawpaw Growers Association

## PAWPAW PICKIN'S

Spring 2010  
Volume 10, Issue 1

### 2010 OPGA Annual Meeting & Grafting Workshop

Dr. Kirk W. Pomper, Kentucky State University, is the speaker at this year's OPGA Annual Meeting. The OPGA is excited that Dr. Pomper has agreed to speak at this year's annual meeting. Dr. Pomper is the only full time researcher of *Asimina triloba* in the US.



Dr. Kirk W. Pomper received both a B.S. and an M.S. in Horticulture from the University of Minnesota in 1985 and 1989, respectively. He received a Ph.D. in Horticulture in 1995 from Oregon State University. Dr. Pomper is currently the Principal Investigator of Horticulture and Curator of the USDA National Clonal Germplasm Repository for pawpaw species at Kentucky State University (KSU). About 80% of his research effort is focused toward developing pawpaw as a new commercial crop, with the remaining 20% directed toward primocane blackberry, gooseberry, currant, and muscadine grape trials.

His pawpaw research effort includes:

- 1) Conducting a variety trial at KSU in cooperation with other sites across the nation,
- 2) Examining flowering, fruit set, and ripening,
- 3) Improving clonal and seedling/rootstock propagation methods,
- 4) Characterizing the morphological and molecular variation in the KSU Repository germplasm collection, and
- 5) Developing organic production methods. The KSU Pawpaw Website contains pawpaw growing and cultivar information and can be found at <http://www.pawpaw.kysu.edu>. The website has had over 300,000 visitors since 2003.

### Annual Meeting ~ May 22, 2010 10:00 AM

Be sure to mark May 22 on your calendar for the OPGA Annual Meeting and Grafting Workshop at Long Branch Farm, Cincinnati Nature Center, Milford, Ohio.

This will be our 10th Annual Meeting and Workshop.

We will also visit the native pawpaw improvement site at Long Branch Farm. Be sure to wear appropriate clothing and footwear since the planting is "on the other side of the creek" which may need to be forded to reach the site.

Your registration will include lunch and a potted pawpaw.

### Mission Statement

*The Ohio Pawpaw Growers Association is a not-for-profit, 501(c)3 organization of pawpaw enthusiasts and commercial pawpaw growers, large and small, dedicated to educating and promoting the superior traits of the pawpaw, developing a pawpaw industry, marketing plan, and preserving and studying the wild pawpaw genetics.*

Please check the mailing label (p8) for your dues/account status.

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## President's Patch *by OPGA President, Dr. Ron Powell, PhD*

2009 was an exciting year for OPGA! We saw a tremendous interest in OPGA membership and we currently have members in over 21 states.

I hope that you notice that we have expanded the newsletter to 8 pages. The fall 2009 newsletter was bursting at the constraints of 4 pages. The pictures were small and I had to leave out many fine pictures of the events and activities that the OPGA was involved in last year. The OPGA is developing many new handouts and these are available in PDF format on our web site—[Ohiopawpaw.com](http://Ohiopawpaw.com). Three of these handouts are included in this newsletter.

The BOD has discussed a new initiative for OPGA members. I have asked Dick Glaser to chair a committee to meet one of the objectives in our mission statement, i.e., is to preserve the wild pawpaw genetics. There are many superior pawpaws remaining in the wild and they need to be preserved. Just remember that the popular Peterson Pawpaws were open-pollinated, i.e., the crosses were in essence pollinated by the native flies and beetles. We have most of the past winners from the Ohio Pawpaw Festival (Chris Chmiel, trademark owner) best fruit competition and we hope to further distribute these past winners to interested individuals and/or growers. We will attempt to graft and disseminate a collection of grafted plants each year. Dick has been requested to identify a small committee to develop an application form and an "educational" agreement. We would like to see a number of demonstration plantings with selected pawpaws throughout the native and potential range of the

pawpaw. This will be presented at the Annual Meeting in May for membership approval. This leads me into the next item of discussion.

One of the most frequently asked questions asked on our web site is, "will papaws grow here and what varieties are best?" I have published results from my plants for the last several years but we need you to record your observations and send the information to us so that we can create a database of your experiences with pawpaws and better respond to questions asked of OPGA. Such a database would not be considered to be scientific but may clear up some of the issues that we have with the pawpaws. There appears to be many discrepancies regarding the production, taste, fruit size, appearance, flowering time, time of ripening, number of seeds, quality, survival, sources, etc. For instance, I have experienced difficulties grafting several of the pawpaw cultivars. Dr. Pomper, Kentucky State University has a nice collection of pictures of whole fruit and fruit cut in half all compared to a quarter for size relationship. Data needs to be collected on the cultivars that are not included in the KYSU collection. Sometimes just a casual observation may lead to a better understanding of growing pawpaws. Observations that could be made in addition to those mentioned above include but not limited to:

- Pawpaw peduncle borer damage
- Skin characteristics
- Phyllosticta injury on foliage and fruit
- Climate conditions
- Fruit splitting
- Uses
- Soil type(s)
- Fertilization
- Climate conditions
- Foliar analysis
- Insect problems

- Other diseases
- Storability of fruit
- Texture of pulp
- Fruit to seed ratio
- Pollination
- Bitter fruit or other off flavors
- Flowering habits
- Yields and fruit weight
- USDA zone
- Length of harvest
- Harvest peak
- Thickness of peel
- Flower or fruit thinning
- Tree pruning maintenance
- Grafting techniques & issues



Let us not forget that the emphasis in cultivar selection has been placed on fresh fruit taste and number of seeds. We also need to begin to take a look at how the various cultivars could be utilized. Are some varieties better for processed pulp, freezing, making alcoholic beverages (beer, wine, liquors, etc), baking, and other specific recipes. We need to select pawpaw cultivars for landscape uses—butterfly gardens, rain gardens, specimen plants that don't bear fruit, mast, backyard fruit trees, etc. I hope that this can be the beginning of a dialog on what we need to do to keep the momentum going to increase the awareness of the superior qualities of pawpaws. The number of pawpaw growers is increasing across the country and KYSU is certainly doing a great job of research on the pawpaw but certainly can't answer all of the questions that we have. We need your input to be successful!!!!!!!!!!

*- Ron*

Check  
**Ohiopawpaw.com**  
for calendar  
&  
new announcement updates

# Pawpaw Peduncle Borer?

by Ron Powell



This past spring I discovered a large number of my pawpaw seedlings, 2 or 3 years old, were wilting and dying in late spring. Upon further investigation, I discovered empty pupa cases a couple of inches above the soil line. I had taken several pawpaw seedlings inside to "force" for grafting and found several small moths on the window sill. As you can see from the pictures, the larvae were tunneling into the stem just above the soil. And not in the pictures, evidence of larval feeding on the outside of the root (girdling). Since

soil. And not in the pictures, evidence of larval feeding on the outside of the root (girdling). Since



I could not identify the moth from my collection, I took the samples to the Plant Pest Control Section, Ohio Dept. of Agriculture. The specialist in charge could not identify the moth beyond the Tortricidea family, so he sent the sample on to APHIS of the USDA. Dr. Passoa identified the moth as *Talponia plummeriana*, **Pawpaw Peduncle Borer**. The tentative identification has caused a little stir among some pawpaw enthusiasts! If the identification is correct, this pest may even be more of a problem to those of us starting pawpaws from



seeds. More work needs to be done and I need your help to check your seedlings for injury, either borer and/or girdling.

## Amish Style Bread Pudding w/Pawpaw

- 1 1/2 cups whole milk
- 1/2 cup pureed pawpaw
- 2 Tablespoons butter
- 1/2 cup light brown sugar
- 3 eggs well beaten
- 1/4 tsp nutmeg (optional)
- 1/4 tsp cinnamon (optional)
- 1 tsp vanilla extract
- 3 cups cubed slightly stale firm bread (such as French or Italian)
- 1/2 cup raisins or nuts (optional)



*This recipe is healthier than traditional recipe because pawpaw allows reduction of the butter and sugar.*

- ◆ In medium saucepan over medium heat, heat milk just until film forms over the top. Combine butter and milk, stirring until butter is melted.
- ◆ Cool to lukewarm, add pawpaw.
- ◆ Combine sugar, eggs, spices (if using) and vanilla.
- ◆ Beat at medium speed for one minute.
- ◆ Slowly add milk/pawpaw mixture.
- ◆ Place bread in lightly greased 1 1/2 quart casserole.
- ◆ Sprinkle with raisins if desired.
- ◆ Pour batter on top of bread
- ◆ Bake at 350 degrees F for 45 to 50 minutes or until set.
- ◆ It is set when a table knife inserted halfway between middle and edge comes out without white batter clinging to it.
- ◆ Serve warm with sauce if desired.

*8 small servings or 6 large*

### Sauce

- 1 cup whole milk
- 2 Tablespoons butter
- 1/3 cup white granulated sugar
- 1 tsp. vanilla
- 1 Tablespoon flour
- Dash of salt

- ◆ Mix all sauce ingredients together and boil 3-4 minutes. Stir constantly.
- ◆ Set aside for 5 min, then pour on warm bread pudding.

## Pawpaws in the Butterfly Garden

A butterfly garden includes two types of plants: host plants and nectar plants. The host plants provide food for the caterpillars or larvae and nectar plants for the adult butterflies. Butterfly caterpillars usually are not a garden pest and don't have voracious appetites for too long before they pupate and become a butterfly. Caterpillar host plants are actually more important than nectar sources because without food for the caterpillars, there will be no adults. The adult male zebra swallowtail butterflies fly in the under story near the pawpaw plants to find females. There are two generations/flights each year, April – August, in the northern part of its range. There are many flights, March – December, in the south.

Pawpaws are the only host plant for the zebra swallowtail (*Eurytides marcellus*) larvae. The females lay single green eggs on lower leaves of pawpaws. Caterpillars live and feed on the underside of the leaves, then pupate there. The pupa over winter. The caterpillars have several color forms. Young pawpaw plants are preferred, thus, host trees need to be maintained in various stages of succession.



Caterpillars or larvae are butterflies, too. Many are fussy eaters like the zebra swallowtails and rely exclusively on the native pawpaw, *Asimina triloba*, as its only food source. The caterpillars prefer younger plants rather than more mature plants.



There are more than 140 different kinds of butterflies recorded in Ohio. Among all of the butterflies that catch our attention, none is more recognizable than the swallowtails as they tend to be large and colorful. The swallowtails include the largest butterfly in the world and are characterized by a pair of "tails" on the hind wings. The function of these delicate, narrow appendages is aerodynamic, enabling the swallowtails to glide long distances at a higher angle than other

butterflies. The black and white swallowtail's tail length varies seasonally, with the first flight (summer form) having very long tails outlined in white. The ventral surface adds a cherry red stripe to the black and white.



There are approximately 500 species of swallowtails worldwide and

they share other characteristics like the fleshy, forked osmeteria (fleshy organ) that the caterpillars stick out of a fold of skin behind the head in the face of danger. Not only does this organ have a strong, disagreeable odor but it resembles the forked tongue of a snake.



The zebra swallowtail caterpillars acquire toxicity by ingesting the pawpaw's noxious flavanoid chemicals. The caterpillars sequester toxic chemicals from the leaves of the pawpaw plants, which not only make them extremely distasteful and are passed along to the other stages in the life cycle: pupa (chrysalis or inactive stage), adult butterfly and even the eggs laid by the female adult.

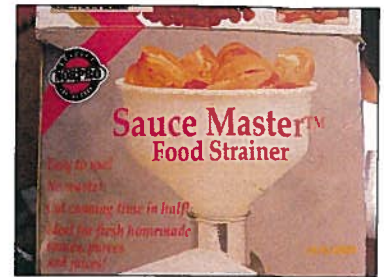
Butterfly watching is a growing pastime. Zebra swallowtails are just one more way that you can enjoy your pawpaw planting.

# Processing Pawpaw

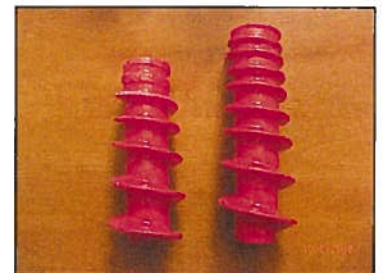
The past several years have seen our pawpaw trees come into increased production and left us scrambling to find a way to efficiently remove the seeds from the pulp. We have hand peeled and manually removed the seeds, used colanders, food mills and giant mixers. All of these methods worked to a degree, but were not satisfactory for larger scale processing of pawpaws throughout the harvest season.

Last year we successfully utilized some "commercial" equipment for processing (see Pawpaw Pickin's, Fall 2008) but this year, with much more fruit, it became increasingly difficult to drive the 30 mile round trip in order to access the equipment. We had been given a hand operated food processor (Norco Sauce Master) to try last year, but we didn't have the correct screen (salsa) and were not able to utilize it. In the summer of 2009, Dr. Kirk Pomper, Kentucky State University, advised me of his success using a Roma Food Processor. The two processors are quite similar but the Norpro is a little better quality and the Roma has the advantage of being able to attach and electric motor which is well worth the extra cost.

Both processors must be modified to process pawpaws. The spiral auger needs to have about 1 to 1 1/2 of the spiral removed to make pawpaw seed removal successful. There are two spirals available, the standard and the grape spiral. Either one can be used, if modified. The grape spiral on the left has been modified by removing a portion of the spiral. We used a "salsa" screen, but Dr. Pomper used a "pumpkin/squash" screen. The grape spiral, the pumpkin/squash and the salsa screen may need to be purchased separately.



Both of the food processors are OK for home use, but not for commercial use. The seeds must be processed twice through the food processor to remove most of the pulp from them.



The fruit is washed and ripe fruit is cut in half and discolor pulp is discarded. Below, Terry Powell is showing Dick Glaser how to scoop out the pulp and seed for processing. The pawpaws must be at the proper stage of ripeness and if the pulp is mashed in a separate bowl before being placed in the hopper funnel, the fruit just slides down the narrow neck into the spiral and the plunger is seldom needed. The picture on the bottom, far right, is the finished pawpaw pulp and seeds. Note the electric motor on the right side of the processor.



# Improving Native Pawpaw Patches

The pawpaw, *Asiminatriloba*, is North America's largest native fruit, and Ohio's official Native Fruit. Pawpaws contain many essential amino acids, minerals, good fats and vitamins. The pawpaw is an extremely versatile fruit and can be eaten fresh, used to make wines, beer, brandy, as a fat substitute in cooking and baking, and can be used in the preparation of many recipes.

The demand for pawpaw fruit has been increasing due to the educational efforts of Kentucky State University, the Pawpaw Foundation, and the Ohio Pawpaw Growers Association. Although many excellent pawpaw selections have been introduced, the availability of these superior plants to the general public is limited and, thus, have restricted the establishment of commercial orchards with superior trees.

There are numerous wild patches of pawpaws throughout Ohio and the eastern United States that offer an opportunity for the establishment of a pawpaw "wild" orchard in a short period of time. Wild pawpaw patches growing along the edge of woods, in forests, in fence rows, in old pastures and in riparian zones should all be investigated as potential areas of orchard development.

There are at least three methods of improving "wild" pawpaw patches. No matter which method is chosen, the patches of pawpaws must be opened up to additional sunlight for improved fruit production. The three methods of improvement are: (1) Grafting select cultivars onto the "wild" pawpaws; (2) Planting pawpaw seedlings or selected grafted varieties in the "wild" patch; and (3) Hand pollinate the "wild" patch of pawpaws.

## **January - February - Early March:**

Collect scion wood from superior trees. OPGA provides scion wood from superior trees for members and has a handout on collecting and storing scion wood.

## **March:**

Prune back competition within the wild pawpaw patch. All trees shading the pawpaw patch should be selectively removed or pruned as well as other invasive species.

## **April:**

As the flowers begin to open, observe the flowering patterns of the pawpaw trees. This is also a good time to collect pollen from your superior trees for use in hand pollination. Fertilization during the growing season is also helpful in increasing production.

## **May:**

Time to start grafting scion wood onto the wild pawpaw rootstock. OPGA provides grafting training and publishes a brochure on grafting. If it is a dry spring, you may want to water or wait until after a substantial rain to improve your grafting process.

## **June:**

Time to check your grafts. Depending on the type of graft, may need to prune the tree to direct the tree's energy into the new graft.

## **July:**

Be sure to weed around your pawpaw plants since they do not like competition from weeds. The pawpaws need a good moisture supply to produce quality fruit and irrigation may be beneficial if insufficient rain.

## **August - September - Early October:**

Fruit may begin to ripen in late August and it is an ideal time to observe the fruit set of pawpaws. This will give you a good idea if the patches are worthwhile visiting during the harvest season. Harvest the fruit and sample fruit from specific trees to determine the quality and collect other important data on the fruit. Select your favorite fruit and tag the trees.

## **October:**

Harvesting should be completed in early October. Pawpaw seed should be cleaned and stored. Be sure to read OPGA's handout on "How to Handle Pawpaw Seed."

## **November - December:**

A good time to clear brush, mulch pawpaw trees and locate new pawpaw patches.

# Directions to Annual OPGA Meeting

6926 Gaynor Rd., Goshen, Ohio 45122

## Directions from the south:

From I-71/75 North from Kentucky, or I-471 South from Cincinnati/Kentucky, merge onto I-275 East toward OH-32.  
Take Route 28 (Exit 57) east toward Blanchester.  
Bear right onto Bypass 28 for 1.3 miles.  
Stay on Route 28 for 3.9 miles.  
Turn left onto Route 48 (north).  
Follow Route 48 to Fay Road.  
Turn Right onto Fay Road.  
Follow to Gaynor Road.  
Turn left onto Gaynor Road.  
Go about 1 mile to Long Branch Farm. The entrance to Creekside is on the left.

Please check  
your mailing label  
for current  
membership status.

## Directions from the north:

Following I-71 or I-75 South from Dayton or Columbus, merge onto I-275 South/East toward OH-32.  
Take Exit 54 (Wards Corner) northeast towards Loveland for .03 miles.  
Turn right onto Loveland-Miamiville Road. Loveland-Miamiville Road turns into Paxton Road.  
Follow Paxton Road for 3.6 miles until it T's into Route 48.  
Turn right onto Route 48.  
Follow Route 48 for 1.4 miles.  
Turn left on Gibson Road.  
Turn right on Gaynor Road.  
The entrance to Creekside is on the right.

**If you get lost, call Jason @ 513-262-2082 or Ron @ 513-382-9031**

# 2010 OPGA Registration Form

**By mail:** Complete the information section below and return with the registration fee to:  
OPGA; c/o Ron Powell; 6549 Amelia Dr.; Cincinnati, OH 45241

**By Phone:** Ron Powell @ 513-777-8367

**By E-mail:** Botrytis@fuse.net

**Registration Fee:** Members: \$8 ~ Non-Members: \$10

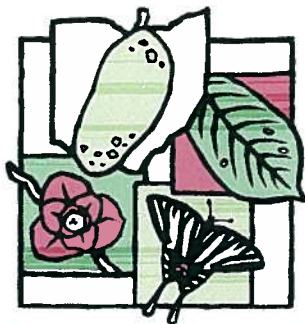
**Completed registrations by May 15th are appreciated**

**Please make checks payable to OPGA**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_ E-mail: \_\_\_\_\_



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**Pawpaw Pickin's**

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Pawpaw or *Asimina triloba* is the largest edible fruit native to North America and is found in 26 states.



**OPGA Editor**  
visit us at our web site:  
**www.Ohiopawpaw.com**  
*Pawpaw Pickin's* is published biannually by the OPGA, an organization dedicated to advancing education and knowledge of pawpaw culture, encouraging the planting of pawpaws, the management of native pawpaws, and perpetuating the utilization of all pawpaw products.

**OPGA Dues**  
We are now able to print mailing labels with each member's anniversary date when membership dues are due. Dues will now be collected on your anniversary date. We hope that the change will be helpful.  
Please renew your membership in OPGA and show your support. Your continued support is needed for the education and promotion of pawpaws.  
**Go to the OPGA web site —  
Ohiopawpaw.com for a membership form.**